

# Human well-being under global change: implications of protected areas establishment and commodity trade dynamics for individual and community capabilities in forest frontier contexts

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Processes of global change have deep implications for local communities in the Global South, both influencing their economic activities and socio-cultural dynamics, and affecting the management of their natural resources basis. In tropical forest-agriculture frontiers, implementation of protected areas to conserve globally praised biodiversity and to sequester carbon to contribute to climate change mitigation efforts, along increasing demand for internationally-traded commodities are among such global processes. While these dynamics have been studied quantitatively from a land cover/land use change, or an agrarian change perspective, little work has been conducted to explore their implications for local human well-being, and even less so, in a disaggregated, multi-dimensional manner.

Building on the capabilities approach, we developed a framework to explore implications of two such dynamics for the well-being of communities living in the periphery of two protected areas in Northeast Madagascar. The region is a global biodiversity hotspot, meaning the occurrence of outstanding levels of biological diversity, paralleled with severe threats to the habitat where much of this biodiversity occurs, the humid forests of the region. From the global, environmental standpoint, recent implementation of terrestrial protected areas has achieved significant reduction of deforestation rates, contributing to preserve the forests and biodiversity occurring there. However, from the local, socio-economic perspective, this has led to the actual of the agricultural frontier for populations relying on these forests to expand their agricultural land, and further hampered their ability to access resources they rely on for their livelihoods. Further, the region is a hub for vanilla and clove production, Madagascar's flagship cash crops and traded in the global market. These commodities are currently under a price boom, which is driving deep changes in the balance between economic activities in the area, which in turn has unclear implications for the well-being of local populations.

The data collected through participatory workshops and structured interviews in our four research villages was analysed through our framework, allowing us to map out the interlinkages of local capabilities at the individual and community level, and to explore how the on-going processes mentioned affect these relations. Our results include the realisation that these globally-driven processes have contradictory implications for local human well-being, suggesting the existence of trade-offs between both individual capabilities, and between individual and community capabilities. Further insights show how different well-being dimensions present a bundle nature, where changes in one capability might trigger changes in a whole set of them.